

Title (en)  
POSITIVE ELECTRODE ACTIVE MATERIAL FOR LITHIUM ION SECONDARY BATTERIES

Title (de)  
POSITIVELEKTRODEN-AKTIVMATERIAL FÜR LITHIUM-SEKUNDÄRBATTERIEN

Title (fr)  
MATÉRIAU ACTIF D'ÉLECTRODE POSITIVE POUR BATTERIES SECONDAIRES AU LITHIUM-ION

Publication  
**EP 2685533 A4 20140813 (EN)**

Application  
**EP 12754490 A 20120228**

Priority  
• JP 2011051227 A 20110309  
• JP 2012054947 W 20120228

Abstract (en)  
[origin: EP2685533A1] The positive electrode active material includes a compound represented by the following composition formula:  
#####  
[Li 1.5 ] [Li 0.5(1-x) Mn 1-x M 1.5x ] O 3 (wherein x satisfies 0.1 ≤ x ≤ 0.5, and M is represented by Ni ± Co <sup>2</sup> Mn <sup>3</sup> in which ±, <sup>2</sup> and <sup>3</sup> satisfy 0 < ± ≤ 0.5, 0 ≤ <sup>2</sup> ≤ 0.33 and 0 < <sup>3</sup> ≤ 0.5, respectively), wherein a half width of the peak of a (001) crystal plane of the compound measured by X-ray diffraction is in a range from 0.14 to 0.33 inclusive, and an average primary particle diameter of the compound is in a range from 0.03 μm to 0.4 μm inclusive.

IPC 8 full level  
**H01M 4/505** (2010.01); **H01M 4/525** (2010.01)

CPC (source: EP KR US)  
**C01G 53/56** (2013.01 - EP US); **H01M 4/505** (2013.01 - EP KR US); **H01M 4/525** (2013.01 - EP KR US); **H01M 10/0525** (2013.01 - KR); **C01P 2004/62** (2013.01 - EP US); **C01P 2004/64** (2013.01 - EP US); **Y02E 60/10** (2013.01 - EP US)

Citation (search report)  
• [XYI] US 2010112448 A1 20100506 - YU DENIS YAU WAI [JP], et al  
• [Y] US 2006159994 A1 20060720 - DAHN JEFFREY R [CA], et al  
• See references of WO 2012121062A1

Cited by  
EP2811558A4; US9306211B2; US10283769B2; US9331334B2; US9391326B2

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**EP 2685533 A1 20140115; EP 2685533 A4 20140813; EP 2685533 B1 20150826**; BR 112013023051 A2 20171114;  
CN 103403930 A 20131120; CN 103403930 B 20151125; JP 2012190580 A 20121004; JP 5741908 B2 20150701; KR 101505351 B1 20150323;  
KR 20130128008 A 20131125; MX 2013008861 A 20130814; MY 166752 A 20180720; RU 2540072 C1 20150127; TW 201238124 A 20120916;  
TW I456822 B 20141011; US 2013337332 A1 20131219; US 8916295 B2 20141223; WO 2012121062 A1 20120913

DOCDB simple family (application)  
**EP 12754490 A 20120228**; BR 112013023051 A 20120228; CN 201280011532 A 20120228; JP 2011051227 A 20110309;  
JP 2012054947 W 20120228; KR 20137026042 A 20120228; MX 2013008861 A 20120228; MY PI2013003219 A 20120228;  
RU 2013145085 A 20120228; TW 101107337 A 20120305; US 201214003347 A 20120228